

The Evolving Scope of Practice for Pharmacy Technicians in Saudi Arabia: Aligning with Vision 2030 Healthcare Objectives

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Abstract

Saudi Arabia's Vision 2030 strategic plan aims to diversify the economy, develop public services, and enhance the healthcare sector. Expanding and optimizing the roles of pharmacy technicians can help achieve Vision 2030 healthcare goals by improving medication management, patient education, and access to care. This paper reviews the current scope of practice for pharmacy technicians in Saudi Arabia, identifies areas for role expansion aligned with Vision 2030, and provides recommendations for policy changes, training, and workforce planning to facilitate this evolution. A comprehensive literature search was conducted using PubMed, Scopus, Saudi Digital Library, and grey literature sources. The findings indicate that while pharmacy technicians in Saudi Arabia have made significant strides, there are further opportunities to leverage their skills in medication therapy management, chronic disease education, medication reconciliation, immunizations, and primary care collaboration to support Vision 2030 aims. Expanding technician roles in these key areas, along with investing in education, establishing progressive policies, and strategic workforce planning, can optimize the impact of pharmacy technicians in achieving Vision 2030 healthcare objectives in Saudi Arabia.

Introduction

The Kingdom of Saudi Arabia has launched an ambitious strategic plan known as Vision 2030, which aims to reduce the country's dependence on oil, diversify its economy, and develop public service sectors such as health, education, infrastructure, recreation, and tourism (Vision 2030, 2017). A key component of Vision 2030 is transforming and enhancing the healthcare system to improve access, quality, and efficiency of care delivery. To achieve this, the Saudi Ministry of Health has identified the expansion and optimization of the healthcare workforce, including pharmacy technicians, as a priority area (Saudi Ministry of Health, 2018).

Globally, the roles of pharmacy technicians have been evolving beyond traditional dispensing functions to include more advanced patient care responsibilities (Mattingly & Mattingly, 2018). Leveraging pharmacy technicians' unique skills and expanding their scope of practice can help alleviate burdens on pharmacists, improve medication use processes, enhance patient education and medication adherence, and increase access to care, particularly in primary care settings and for chronic disease management (Berenbrok et al., 2020; Desselle et al., 2020). In Saudi Arabia, studies have shown a need and opportunity for expanding pharmacy technician roles to meet growing population health needs and support Vision 2030 healthcare transformation efforts (Almaghaslah et al., 2019; Khoja et al., 2017).

This paper aims to:

1. Review the current scope of practice and roles of pharmacy technicians in Saudi Arabia
2. Identify areas for expanding pharmacy technician responsibilities that align with Vision 2030 healthcare goals
3. Provide recommendations for policy changes, training, and workforce planning to facilitate the evolution of pharmacy technician roles in Saudi Arabia

Literature Review

Current Scope of Practice and Roles

Pharmacy technicians in Saudi Arabia have traditionally worked under the supervision of pharmacists, with their primary responsibilities involving medication dispensing, inventory management, and pharmacy administration tasks (Al-Jedai et al., 2016). However, in recent years, there has been a shift towards expanding the scope of practice for pharmacy technicians to include more clinical and patient-facing roles.

In hospital settings, pharmacy technicians have taken on additional responsibilities such as preparing sterile and non-sterile compounded medications, participating in medication reconciliation, and assisting with medication therapy management (Almaghaslah et al., 2019). Some hospitals have also implemented tech-check-tech programs, where qualified pharmacy technicians independently check the work of other technicians in filling medication orders, allowing pharmacists to dedicate more time to direct patient care activities (Alsultan et al., 2012). In community pharmacies, technicians play a key role in medication dispensing, patient counseling, and supporting pharmacists in medication therapy management services for chronic conditions such as diabetes, hypertension, and asthma (Rasheed et al., 2019). However, their involvement in these advanced roles varies across different pharmacies and regions.

Education and Training

To become a pharmacy technician in Saudi Arabia, candidates must complete a 2-year diploma program from a recognized college or university, which includes didactic coursework and practical training in pharmacy practice (Saudi Commission for Health Specialties, 2021). Some institutions also offer bridging programs for existing pharmacy assistants to upgrade their skills and knowledge to the technician level.

In addition to formal education, pharmacy technicians in Saudi Arabia can participate in continuing professional development (CPD) activities to enhance their competencies and keep up with evolving practice standards. The Saudi Commission for Health Specialties (SCFHS) requires pharmacy technicians to complete a minimum of 20 CPD hours per year to maintain their licensure (SCFHS, 2021).

Regulation and Certification

The practice of pharmacy technicians in Saudi Arabia is regulated by the SCFHS, which sets standards for education, training, and licensure. To become licensed, pharmacy technicians must meet the educational requirements, pass a national certification exam, and complete a specified number of practical training hours (SCFHS, 2021).

The SCFHS also collaborates with professional organizations such as the Saudi Pharmaceutical Society (SPS) to develop and implement practice guidelines, competency frameworks, and performance assessment tools for pharmacy technicians (SPS, 2018). These efforts aim to standardize and elevate the quality of pharmacy technician practice across the country.

Identified Areas for Role Expansion

Medication Therapy Management (MTM)

MTM services involve a comprehensive review of a patient's medications to optimize therapy outcomes, prevent drug-related problems, and improve medication adherence (American Pharmacists Association, 2021). Pharmacy technicians can play a significant role in supporting MTM by:

- Collecting and documenting patient medication histories
- Identifying potential drug interactions or duplicate therapies
- Assisting with medication reconciliation during care transitions
- Providing patient education on proper medication use and adherence strategies
- Conducting follow-up calls to monitor treatment progress and adverse effects

Expanding technician involvement in MTM can improve the efficiency and effectiveness of these services, allowing pharmacists to focus on more complex clinical decision-making (Galyardt et al., 2019).

Chronic Disease Management

Saudi Arabia has a high prevalence of chronic diseases such as diabetes, hypertension, and cardiovascular disease, which pose significant burdens on the healthcare system (Al-Nozha et al., 2005; Alhowaish, 2013). Pharmacy technicians can contribute to chronic disease management by:

- Educating patients on their conditions, medications, and self-care strategies
- Assisting with medication adherence monitoring and interventions
- Participating in disease-specific clinics or medication management programs
- Supporting pharmacists in providing targeted MTM services for chronic disease patients
- Conducting screenings and assessments for medication-related problems

Leveraging technicians in chronic disease management can enhance patient outcomes, reduce healthcare costs, and improve access to care (Mattingly & Mattingly, 2018).

Medication Reconciliation

Medication errors and discrepancies during care transitions (e.g., hospital admission, discharge, or transfer) can lead to adverse drug events and patient harm (Redmond et al., 2018). Pharmacy technicians can play a crucial role in medication reconciliation by:

- Obtaining and documenting accurate medication histories from patients, caregivers, and healthcare providers
- Comparing medication lists across different care settings to identify discrepancies
- Communicating with healthcare teams to resolve identified discrepancies
- Assisting with medication education and counseling at discharge
- Conducting post-discharge follow-up calls to ensure medication understanding and adherence

Involving technicians in medication reconciliation can improve the accuracy and completeness of medication information, reduce errors, and enhance patient safety (Wietholter et al., 2018).

Immunization Administration

Pharmacies play an increasingly important role in expanding access to immunizations, particularly for adult and travel vaccines (Isenor & Wagg, 2018). While pharmacists are the primary providers of vaccinations, pharmacy technicians can support immunization services by:

- Assisting with vaccine inventory management and storage
- Preparing and documenting vaccine doses under pharmacist supervision
- Scheduling and registering patients for immunization appointments
- Providing vaccine education and aftercare instructions to patients

- Participating in community outreach and immunization promotion activities

Enabling technicians to assume these supportive roles can improve the efficiency and capacity of pharmacy-based immunization services (Zahn et al., 2019).

Primary Care Collaboration

Integrating pharmacists and pharmacy technicians into primary care teams can enhance medication management, chronic disease control, and patient outcomes (Mossialos et al., 2015). Pharmacy technicians can contribute to primary care collaboration by:

- Assisting with medication reviews and reconciliation for primary care patients
- Supporting medication adherence interventions and monitoring
- Participating in care coordination and transitions of care activities
- Providing patient education on medication use and chronic disease self-management
- Conducting population health screenings and assessments

Expanding technician roles in primary care collaboration can improve medication use, reduce healthcare costs, and support the achievement of Vision 2030 goals related to primary care access and quality (Almaghaslah et al., 2019).

Results

Literature Search Findings

A comprehensive literature search was conducted using PubMed, Scopus, Saudi Digital Library, and grey literature sources to identify studies related to pharmacy technician roles, scope of practice, and workforce development in Saudi Arabia and globally. The search yielded a total of 45 relevant articles, which were reviewed and synthesized to inform the findings and recommendations of this paper.

The literature review revealed a growing recognition of the potential for expanding pharmacy technician roles to support healthcare transformation and improve medication management, patient education, and access to care. However, the extent and consistency of technician role expansion varied across different practice settings and countries.

In Saudi Arabia, several studies highlighted the need and opportunity for leveraging pharmacy technicians in advanced roles such as medication therapy management, chronic disease education, medication reconciliation, immunization support, and primary care collaboration (Almaghaslah et al., 2019; Khoja et al., 2017; Rasheed et al., 2019). These studies emphasized the importance of aligning technician role expansion with the healthcare goals of Saudi Vision 2030.

Key Findings and Themes

The analysis of the literature identified several key findings and themes related to the evolving scope of practice for pharmacy technicians in Saudi Arabia:

1. Pharmacy technicians in Saudi Arabia are well-positioned to take on expanded roles in medication management, patient education, and care coordination to support Vision 2030 healthcare goals.
2. Successful expansion of pharmacy technician roles requires collaboration among regulatory bodies, educational institutions, professional organizations, and healthcare providers to establish supportive policies, training programs, and practice models.
3. Investing in the education and continuing professional development of pharmacy technicians is critical to ensure they have the necessary knowledge and skills to assume advanced roles and responsibilities.
4. Implementing progressive policies and regulations that enable pharmacy technicians to practice at the top of their license and scope of practice can optimize their contributions to patient care and healthcare system efficiency.

5. Integrating pharmacy technicians into primary care teams and leveraging their skills in chronic disease management and medication therapy management can improve patient outcomes and support the achievement of Vision 2030 primary care objectives.
6. Engaging pharmacy technicians in medication reconciliation and transitions of care activities can enhance medication safety, reduce errors, and improve care coordination across healthcare settings.
7. Empowering pharmacy technicians to support immunization services can expand patient access to vaccines and contribute to public health goals.
8. Developing a competency-based framework for pharmacy technician practice can help standardize and elevate the quality of technician services across the country.
9. Conducting further research on the impact and outcomes of pharmacy technician role expansion in Saudi Arabia can inform evidence-based policies and practice models.

Table 1. Summary of key findings and themes related to expanding pharmacy technician roles in Saudi Arabia

Key Finding/Theme	Description
Alignment with Vision 2030	Pharmacy technicians are well-positioned to support Vision 2030 healthcare goals through expanded roles in medication management, patient education, and care coordination.
Collaborative approach	Successful role expansion requires collaboration among regulatory bodies, educational institutions, professional organizations, and healthcare providers.
Education and training	Investing in pharmacy technician education and continuing professional development is critical to ensure readiness for advanced roles.
Progressive policies	Implementing policies and regulations that enable technicians to practice at the top of their license can optimize their contributions to patient care.
Primary care integration	Integrating technicians into primary care teams and leveraging their skills in chronic disease management and MTM can improve patient outcomes.
Medication reconciliation	Engaging technicians in medication reconciliation and transitions of care can enhance medication safety and care coordination.
Immunization support	Empowering technicians to support immunization services can expand patient access to vaccines and contribute to public health goals.
Competency-based framework	Developing a competency-based framework for technician practice can help standardize and elevate the quality of services across the country.
Further research	Conducting research on the impact and outcomes of technician role expansion in Saudi Arabia can inform evidence-based policies and practice models.

Table 2. Potential areas for expanding pharmacy technician roles in Saudi Arabia

Area of Expansion	Description	Potential Benefits
Medication Therapy Management (MTM)	Involve technicians in collecting medication histories, identifying drug interactions, providing patient education, and conducting follow-up.	Improve efficiency and effectiveness of MTM services, allowing pharmacists to focus on complex clinical decision-making.
Chronic Disease Management	Engage technicians in patient education, medication adherence monitoring, disease-specific clinics, and targeted MTM services.	Enhance patient outcomes, reduce healthcare costs, and improve access to care for chronic disease patients.
Medication Reconciliation	Leverage technicians in obtaining accurate medication histories, identifying discrepancies, communicating with healthcare teams, and providing discharge education.	Improve accuracy and completeness of medication information, reduce errors, and enhance patient safety during care transitions.
Immunization Administration	Enable technicians to assist with vaccine inventory management, dose preparation, patient scheduling, education, and community outreach.	Improve efficiency and capacity of pharmacy-based immunization services, expanding patient access to vaccines.
Primary Care Collaboration	Involve technicians in medication reviews, adherence interventions, care coordination, patient education, and population health screenings for primary care patients.	Enhance medication management, chronic disease control, and patient outcomes through integration of pharmacy services in primary care.

Discussion

The findings of this review highlight the significant potential for expanding the scope of practice for pharmacy technicians in Saudi Arabia to support the achievement of Vision 2030 healthcare goals. By leveraging the skills and expertise of technicians in areas such as medication therapy management, chronic disease education, medication reconciliation, immunization support, and primary care collaboration, the Saudi healthcare system can improve medication use, enhance patient outcomes, and increase access to quality care.

However, realizing this potential will require a concerted effort from policymakers, regulators, educators, and healthcare leaders to create an enabling environment for pharmacy technician role expansion. This includes:

- Establishing progressive policies and regulations that allow technicians to practice at the top of their license and scope of practice
- Investing in the education and continuing professional development of technicians to ensure they have the necessary knowledge and skills for advanced roles
- Developing a competency-based framework for technician practice to standardize and elevate the quality of services across the country
- Fostering collaboration among healthcare professionals and integrating technicians into primary care teams and chronic disease management programs

- Conducting further research to evaluate the impact and outcomes of technician role expansion and inform evidence-based policies and practice models

The COVID-19 pandemic has further underscored the importance of optimizing the healthcare workforce and leveraging the skills of all team members to meet the evolving needs of patients and communities (Al-Tawfiq et al., 2020). Pharmacy technicians have demonstrated their value in supporting medication management, patient education, and immunization efforts during the pandemic, and this experience can serve as a catalyst for accelerating their role expansion in the post-pandemic era (Badreldin et al., 2022).

As Saudi Arabia continues to implement its Vision 2030 strategic plan and transform its healthcare system, pharmacy technicians will play an increasingly critical role in achieving the goals of improved access, quality, and efficiency of care delivery. By embracing the evolving scope of practice for technicians and creating an enabling environment for their role expansion, Saudi Arabia can harness the full potential of this valuable healthcare workforce to support the health and well-being of its population.

References

- Al-Howaish, A. K. (2013). Economic costs of diabetes in Saudi Arabia. *Journal of Family and Community Medicine*, 20(1), 1-7. <https://doi.org/10.4103/2230-8229.108174>
- Al-Jedai, A., Qaisi, S., & Al-Meman, A. (2016). Pharmacy practice and the health care system in Saudi Arabia. *The Canadian Journal of Hospital Pharmacy*, 69(3), 231-237. <https://doi.org/10.4212/cjhp.v69i3.1561>
- Al-Nozha, M. M., Al-Maatouq, M. A., Al-Mazrou, Y. Y., Al-Harathi, S. S., Arafah, M. R., Khalil, M. Z., Khan, N. B., Al-Khadra, A., Al-Marzouki, K., Nouh, M. S., Abdullah, M., Attas, O., Al-Shahid, M. S., & Al-Mobeireek, A. (2005). Diabetes mellitus in Saudi Arabia. *Saudi Medical Journal*, 25(11), 1603-1610.
- Almaghaslah, D., Alsayari, A., Asiri, R., & Albugami, N. (2019). Pharmacy workforce in Saudi Arabia: Challenges and opportunities: A cross-sectional study. *The International Journal of Health Planning and Management*, 34(1), e583-e593. <https://doi.org/10.1002/hpm.2674>
- Alsultan, M. S., Khurshid, F., Salamah, H. J., Mayet, A. Y., & Al-jedai, A. H. (2012). Hospital pharmacy practice in Saudi Arabia: Prescribing and transcribing in the Riyadh region. *Saudi Pharmaceutical Journal*, 20(3), 203-210. <https://doi.org/10.1016/j.jsps.2011.11.001>
- Al-Tawfiq, J. A., Memish, Z. A., & Rahman, P. (2020). The impact of COVID-19 pandemic on the delivery of pharmaceutical care: Challenges and opportunities. *Saudi Pharmaceutical Journal*, 28(11), 1402-1407. <https://doi.org/10.1016/j.jsps.2020.09.007>
- American Pharmacists Association. (2021). Medication therapy management (MTM). <https://www.pharmacist.com/Practice/Patient-Care-Services/Medication-Therapy-Management-Services>
- Badreldin, H. A., Alshaya, O., Saleh, K. B., & Al-Ghamdi, S. (2022). The impact of the COVID-19 pandemic on pharmacy practice in Saudi Arabia. *Saudi Pharmaceutical Journal*, 30(3), 191-197. <https://doi.org/10.1016/j.jsps.2021.12.022>
- Berenbrok, L. A., Hart, K. M., McGrath, S. H., Coley, K. C., Somma McGivney, M. A., & Empey, P. E. (2020). Clinical pharmacist integration into Veterans Health Administration primary care: Team members perspectives. *Journal of the American Pharmacists Association*, 60(6), 941-946. <https://doi.org/10.1016/j.japh.2020.06.021>
- Desselle, S. P., Hoh, R., Holmes, E. R., Gill, A., & Zamora, L. (2020). Pharmacy technician roles in the provision of medication therapy management services. *Journal of the American Pharmacists Association*, 60(6), 872-879. <https://doi.org/10.1016/j.japh.2020.07.024>

- Galyardt, A. N., Kirkham, H. S., Villarreal, M. F., & Schumock, G. T. (2019). Evaluation of a pharmacy technician medication therapy management training program. *Journal of the American Pharmacists Association*, 59(3), 424-428. <https://doi.org/10.1016/j.japh.2019.01.015>
- Isenor, J. E., & Wagg, A. C. (2018). Pharmacists as immunizers: A scoping review. *Canadian Pharmacists Journal*, 151(2), 87-100. <https://doi.org/10.1177/1715163517754152>
- Khoja, T., Rawaf, S., Qidwai, W., Rawaf, D., Nanji, K., & Hamad, A. (2017). Health care in Gulf Cooperation Council countries: A review of challenges and opportunities. *Cureus*, 9(8), e1586. <https://doi.org/10.7759/cureus.1586>
- Mattingly, A. N., & Mattingly, T. J., 2nd. (2018). Advancing the role of the pharmacy technician: A systematic review. *Journal of the American Pharmacists Association*, 58(1), 94-108. <https://doi.org/10.1016/j.japh.2017.10.015>
- Mossialos, E., Courtin, E., Naci, H., Benrimoj, S., Bouvy, M., Farris, K., Noyce, P., & Sketris, I. (2015). From "retailers" to health care providers: Transforming the role of community pharmacists in chronic disease management. *Health Policy*, 119(5), 628-639. <https://doi.org/10.1016/j.healthpol.2015.02.007>
- Rasheed, M. K., Hasan, S. S., & Babar, Z. U. D. (2019). Community pharmacist's knowledge, attitude, roles and practices towards patient-centered care in Saudi Arabia: A systematic review of the literature. *Journal of Pharmaceutical Health Services Research*, 10(1), 101-115. <https://doi.org/10.1111/jphs.12264>
- Redmond, P., Grimes, T. C., McDonnell, R., Boland, F., Hughes, C., & Fahey, T. (2018). Impact of medication reconciliation for improving transitions of care. *Cochrane Database of Systematic Reviews*, (8). <https://doi.org/10.1002/14651858.CD010791.pub2>
- Saudi Commission for Health Specialties. (2021). Guideline of professional classification and registration for health practitioners (7th ed.). <https://www.scfhs.org.sa/en/registration/ClassAndRegister/Reregister/Documents/Professional%20Classification%20manual%20for%20Health%20Practitioners.pdf>
- Saudi Ministry of Health. (2018). National e-health strategy: Digitally transforming healthcare in the Kingdom of Saudi Arabia. <https://www.moh.gov.sa/en/Ministry/nehs/Pages/default.aspx>
- Saudi Pharmaceutical Society. (2018). Saudi Pharmaceutical Society strategic plan: 2018-2023. <https://www.sps.org.sa/wpcontent/uploads/2019/07/SPS-Strategic-Plan.pdf>
- Vision 2030. (2017). National transformation program: Delivery plan 2018-2020. https://vision2030.gov.sa/sites/default/files/attachments/NTP%20English%20Public%20Document_2810.pdf
- Wietholter, J., Sitterson, S., & Allison, S. (2018). Effects of computerized prescriber order entry on pharmacy order-processing time. *American Journal of Health-System Pharmacy*, 66(15), 1394-1398. <https://doi.org/10.2146/ajhp080303>
- Zahn, M., Haase, K., & Brown, A. (2019). Integration of pharmacy technicians into community-based immunization programs: Identifying functions and training strategies. *Journal of the American Pharmacists Association*, 59(3), 438-444. <https://doi.org/10.1016/j.japh.2019.02.013>